June 13, 2008

M E M O R A N D U M

TO: Mark Mason, P.E.
Engineering Manager, Boise Regional Office

FROM: Steve Ogle, P.E.
Boise Regional Office

SUBJECT: Staff Analysis for Draft Wastewater Reuse Permit LA-000215-01 (Municipal Wastewater)
City of Meridian, Idaho

1. PURPOSE

The purpose of this memorandum is to satisfy the requirements of the *Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater* (*Reuse Rules*), IDAPA 58.01.17.400.04, for issuing wastewater reuse permits (WRPs). This memorandum addresses draft WRP No. LA-000215-01, for a municipal, Class A wastewater treatment and reuse system to be owned and operated by the City of Meridian, Idaho (Meridian).

2. SUMMARY OF EVENTS

An engineering report and permit application materials for a Class A municipal wastewater treatment and reuse project for Meridian were submitted to the Department of Environmental Quality (DEQ) on May 8, 2007. DEQ issued a comment letter in response to the application materials on June 7, 2007. DEQ conditionally approved the engineering report via email on August 28, 2007, pending 1) submittal of passing results for a pressure test of the Boise River Outfall pipe, which was proposed for use in delivery of the Class A effluent to Heroes Park, and 2) additional information on the disinfection proposal.

Additional and revised application materials were received by DEQ on January 11, 2008. The revised application was determined to be complete, for purposes of the reuse permit application, in a DEQ letter issued to Meridian on February 8, 2008.

Preliminary, passing results for a pressure test conducted in accordance with American Water Works Association's Standard C603-05 were received by DEQ, via email from Meridian's Public Works Department, on October 25, 2007. The test results for the river outfall pipe are also presented within the revised application materials submitted to DEQ in January 2008. Plans and specifications regarding improvements relative to the disinfection proposal were received by DEQ on February 19, 2008; DEQ provided verbal comments to the project engineer over the telephone on April 8, 2008. Additional supporting information and revised plans were subsequently received and approved by DEQ in May of 2008.

The 2008 engineering report and WRP application update/revision, and other supplemental information submitted by the permittee were used to develop draft WRP No. LA-000215-01 for a public review and comment period. After the public review period is closed, DEQ will provide written responses to all relevant comments and prepare a final permit for Meridian's wastewater reuse facilities.

3. SITE AND PROCESS DESCRIPTIONS

This entire project is contained within the city boundaries of Meridian. The existing municipal wastewater treatment plant (WWTP) is located at 3401 N. Ten Mile Road in Meridian, Idaho. The WWTP is owned, operated, and maintained by Meridian. This project involves splitting off a portion of the effluent discharged

from the WWTP and providing additional treatment to increase the effluent quality to Class A standards. At the present time, the applicant has only proposed to apply Class A reclaimed water at a single site (i.e., Heroes Park), which is also owned and maintained by Meridian. Heroes Park is a 30-acre recreational park comprised of soccer fields, tennis courts, an irrigation pond, and a parking area. The total irrigated area onsite is approximately 24 acres, and is maintained by Meridian's Parks and Recreation Department. The park is located on the east side of Ten Mile Road, north of the intersection with Malta Way. The park is relatively flat, with less than 2% slope from northeast to the southwest. Refer to Appendix 2 of the draft permit for vicinity and site maps.

3.1 Soils Evaluation

The WRP application indicates that soils under the site consist of approximately 70 percent Purdam silt loam and 30 percent Abo silt loam. This information was obtained from the National Resources Conservation Service (NRCS) Web Soil Survey of Ada County. Both soil types generally consist of ten inches of silt loams at the surface, underlain by approximately 12" of silty clay loam. The NRCS indicates that the Purdam silt loams may have hardpan at 20-40 inches below the surface. Refer to Section 6.3 of the application materials for additional soils discussion.

The WRP application indicates that this site was primarily used for agricultural purposes (i.e., open pasture) prior to development of the park in 2006. DEQ notes that the WRP application does not include any site-specific, analytical soils data for the park; however, the draft WRP requires Meridian to collect and report analytical soils data in the final year of the 5-year permit term to assess nutrient and salt concentrations (i.e., refer to Section G of the WRP). Given the similarity in previous and planned, future uses of the site (i.e., irrigated turf), this should be sufficient to establish adequate soil characterizations and ensure proper oversight of the area.

3.2 Surface Water Evaluation

The WRP application indicates that the nearest surface waters to Heroes Park are irrigation canals. Specifically, the Simpson Lateral, located 900 feet north of the site, and the Lemp Canal, located 2,500 feet to the south of the site. Runoff from this site is currently managed under a storm water plan, and the potential for any impact to surface waters due to the application of treated effluent is considered minimal at this time.

3.3 Ground Water Evaluation

The WRP application contains a brief discussion of the regional geology/hydrogeology in the Treasure Valley area, largely based on information cited from the Digital Atlas of Idaho Project, a GIS-based, educational website maintained by Idaho State University (http://imnh.isu.edu/digitalatlas/index.htm). The permit application notes that the Treasure Valley contains shallow aquifers contained in Snake River Group sediments, generally less than 250 feet below ground surface (bgs). Ground water in these shallow aquifers generally stems from infiltration of irrigation waters and precipitation on the ground surface, and is thought to discharge to surface waters throughout the valley (i.e., rather than infiltrating to deeper aquifers). Seasonal variations in the ground water table can range up to 10 feet in various areas, dictated by irrigation demand and use. Based on work from the Treasure Valley Aquifer Working Group, the application also indicates that water contours in the shallow aquifer tend to reflect surface hydrologic conditions, and that ground water in the area of Heroes Park will tend to flow in a west-northwest direction, "…in line with and slightly towards the Boise River."

The WRP does cites specific ground water elevation information for the Heroes Park area, taken from an unused domestic well located south of the site. The application indicates that ground water is

typically 5.5-6.5 feet bgs during the irrigation season, and 9-11 feet bgs during the non-irrigation season.

Given the nature of the proposal (i.e., Class A irrigation), no site-specific assessments were made for this project, and no ground water quality data was collected or presented for the site. Early on in the permitting process, DEQ noted that the Heroes Park site appears to be in or immediately adjacent to a nitrate priority area. Although the nitrate priority delineations for this area are currently being re-evaluated by DEQ's Ground Water Program, the final outcome of this effort is unclear at the present time, and the agency requested that a ground water impact assessment for nitrogen be conducted, in accordance with the provisions of IDAPA 58.01.17.601.05, to ensure protection of the *Ground Water Quality Rule*, IDAPA 58.01.11.

The revised permit application, dated January 10, 2008, contains ground water mixing zone analyses for four specific irrigation scenarios. Each of these scenarios assume a total nitrogen concentration of 11.5 milligrams per liter (mg/L) in the treated wastewater effluent, and an upgradient/background value of 4.1 mg/L for nitrate. The assessments utilize a range of hydraulic conductivities for each scenario, and set hydraulic loading rates 1) at 90% of the irrigation water requirement (i.e., no effluent entering ground water), or 2) such that 2 inches of percolate enters ground water. Although this approach neglects the actual, existing background nitrate concentrations, the scenarios presented are thought to be conservative assessments of the potential to impact to ground water quality, so long as the site is actually irrigated at or near the turf's irrigation water requirement. The worst-case analysis indicates that application of the Class A effluent is unlikely to increase ground water nitrate concentration more than 1 mg/L at the down-gradient property boundary.

3.4 Process Description

Meridian's municipal WWTP consists of headworks, primary clarification, activated sludge secondary treatment, tertiary filtration, and disinfection. Treated effluent is generally discharged to Five Mile Creek or the Boise River under National Pollutant Discharge Elimination System (NPDES) Permit No. ID-002019-2, administered by the U.S. Environmental Protection Agency. The NPDES also manages sludge produced by the WWTP as biosolids, in accordance with 40 CFR 503.

The permit application proposes to treat a portion of the effluent discharged from Meridian's WWTP to Class A criteria and discharge this effluent into a lined storage pond (i.e., Heroes Park Holding Pond) located on the Heroes Park site. This one million gallon storage pond is an existing pond that has previously been used to store irrigation water obtained from Settlers Irrigation District, and feeds the irrigation water to an existing distribution system within the park. The WRP application indicates that the park's existing irrigation systems will also be used to distribute Class A effluent and/or irrigation water from the holding pond onto the Heroes Park site. The treatment plant will be operated by Meridian's Public Works Department, while irrigation of the Heroes Park site will be operated by Meridian's Parks and Recreation Department.

It must be noted that, at the present time, the scope of the reuse permit is limited to application of Class A effluent on the Heroes Park site only. Meridian's municipal treatment plant will continue to produce non-Class A effluent for discharge under the terms of its NPDES permit, and the treatment plant does not constitute a dedicated Class A treatment facility in and of itself. As part of this reuse project, Meridian will make improvements necessary to meet the Class A filtration requirements of IDAPA 58.01.17.601.04, as well as the disinfection requirements of Section 601.06.c, for only a limited portion of the total effluent discharged from the WWTP. The specifics of these plant improvement projects are further discussed in Section 3.5 of this document.

DEQ notes that the WWTP appears to have sufficient redundancy, with respect to the amount of effluent required to irrigate the Heroes Park site; however, the redundancy issue will need to be re-evaluated if Meridian should elect to expand applications of its Class A effluent to sites other than Heroes Park. The permit application indicates that Meridian may consider other applications and/or sites for inclusion in the Class A project at a future date; however, such applications have not been evaluated under this permitting project, and the draft permit is not set up to incorporate such applications under its current framework. Consequently, additional permit application(s) and/or modification(s) may be required to facilitate expansion of Meridian's Class A program.

3.5 Wastewater Evaluation

Section 5 of the WRP application contains some general information about the volume of influent received by Meridian's WWTP and quality of the effluent discharged by the facility. This information is very limited in nature, and appears to be based upon data taken from a draft facility plan developed for Meridian's WWTP by Carollo Engineers. DEQ notes that detailed characterization is not necessarily required for this project, since the permit application does not propose to treat the entire volume of effluent from the WWTP to Class A standards, but rather only the amount required to irrigate Heroes Park. Any effluent that does not meet the Class A criteria will be managed under the terms of Meridian's NPDES permit, and is not subject to the terms of the WRP. The table below given some historic constituent data for effluent from the WWTP, and was taken directly from the permit application prepared by HDR Engineering, Inc.

Table 3.1: Meridian WWTP Effluent Quality Data Between 2002 and 2005[a]

Constituent	Average Concentration (mg/L)	Minimum Concentration (mg/L)	Maximum Concentration (mg/L)
Nitrate	9.3	1.0	17.8
Total Kjeldahl Nitrogen	2.2	0.1	13.7
Ammonia	1.3	0.04	15.2
Total Phosphorous	2.9	0.1	5.48

[a]Taken from the permit application provided by HDR Engineering, Inc.

It must be noted that the primary and secondary treatment processes used at Meridian's WWTP have undergone, and/or are currently undergoing, physical upgrades since 2005. These improvements have or will likely impact the quality of effluent produced in the future (i.e., including effluent that will be reused under the terms of the WRP). The WRP application does not specifically address or discuss how the improvements are expected to impact effluent quality, nor does it present any quantified parameters for the quality of effluent expected after completion of the improvement projects.

The WRP application materials do, however, address the WWTP's tertiary filtration processes, as well as improvements that must be implemented in order to meet DEQ's requirements for filtration technologies used in Class A effluent projects (IDAPA 58.01.17.601.04). The application also discusses the disinfection process(es) that will be used at the WWTP to meet the disinfection requirements of IDAPA 58.01.17.601.06.

Section 5.1.5 of the WRP application indicates that tertiary filtration will be carried out by traveling bridge filters or Aqua-Aerobic Systems Cloth-Media Disk Filter. Class A operational requirements for traveling bridge filters are found in IDAPA 58.01.17.601.04.b, while operational requirements for the Aqua-Aerobics system are contained in the technology acceptance letter from DEQ, dated June 29, 2006.

Meridian's WWTP currently relies upon an ultraviolet disinfection system; however, this system is not sufficient to meet the 5-log virus inactivation required under IDAPA 58.01.17.601.06. The WRP

application indicates that a sodium hypochlorite injection system will be installed at the Boise River Outfall Pump Station. The *Reuse Rules* require that Class A chlorine disinfection processes provide a concentration/contact time (CT) of 450 mg-min/L, measured at the end of the contact time with a modal contact time of not less than 90 minutes based on peak flow.

The permit application and supporting documents indicate that the length of the outfall pipe between the pump station and Heroes Park will be used to achieve the contact time required. In order to allow chlorine residual monitoring onsite at the WWTP, rather than directly measuring the residual of effluent discharged onsite at Heroes Park Holding Pond, the application materials proposed construction of a system inside the Boise River Outfall pump house that will simulate actual contact time and chlorine residual achieved in the Boise River Outfall pipeline. This simulation system is hereafter referred to as the CT simulator. The design of the CT simulator is discussed in a technical memo from HDR Engineering, Inc., dated April 10, 2008, and is based in part, on a constant effluent discharge of 800 gallons per minute (gpm) to the Boise River Outfall pipeline. Operation of the CT simulator is further discussed and addressed under Section 4.1.4 of this document.

Any chlorinated, off-spec effluent (i.e., not meeting Class A effluent requirements or NPDES discharge requirements) discharged into the Boise River Outfall will be remotely diverted from the outfall into Heroes Park Holding Pond, where it will be manually chlorinated/treated to meet Class A requirements. In the event that Class A effluent cannot be produced onsite, the contents of the pond will be slowly pumped back into the gravity sewer and returned to the WWTP. This proposal serves to satisfy the alternative disposal option required for Class A systems under IDAPA 58.01.17.601.07.a.i, and was received by DEQ via an email from the project consultant on May 19, 2008. The alternative disposal option will be further discussed within the Plan of Operation, required by Compliance Activity No. CA-215-01 in the draft permit and further discussed in Section 4.4 of this document.

4. REGULATORY DISCUSSION

This section discusses regulatory and technical basis for terms and conditions contained in the draft version of WRP No. LA-000215-01. Administrative changes and/or similar, non-technical aspects of the draft permit (e.g., Sections A-D, I, and J of the permit) are not specifically addressed within this document.

4.1 Site-Specific Permit Conditions – Section F

4.1.1 Application Season Restriction

Section F of the WRP restricts any application of Class A effluent to the growing season (GS). The GS is defined as the period from April 1st through October 31st of each year (i.e., refer to the definition in Section C of the WRP).

4.1.2 Class A Effluent Treatment and Reuse System Operation Requirement

Section F of the permit requires the wastewater treatment and reuse systems to be operated by personnel certified and licensed in the State of Idaho wastewater operator training program at the operator class level specified in IDAPA 58.01.16.203 of the *Wastewater Rules*, and properly trained to operate and maintain the system. Operation of the wastewater treatment system must be monitored on a 24-hour basis for alarm conditions, including notification of the qualified operating personnel under alarm conditions.

4.1.3 Class A Filtration Units, Operational Requirements

The WRP contains operational requirements for the Class A filtration units. Section 5.1.5 of the WRP application indicates that tertiary filtration will be carried out by traveling bridge filters or Aqua-Aerobic Systems Cloth-Media Disk Filter. Class A operational requirements for traveling bridge filters are found in IDAPA 58.01.17.601.04.b, while the operational requirements for the Aqua-Aerobics system are contained in the technology acceptance letter from DEQ, dated June 29, 2006. These Class A requirements have been incorporated into Section F of the permit.

The monitoring requirements for these conditions are found in Section G of the permit, and require that loading rate and turbidity of the influent to the filters be monitored on a continuous basis. Section G of the permit also requires annual calibration of all flow meters and pumps used directly or indirectly measure all wastewater flow rates.

4.1.4 Class A Effluent, Disinfection Requirements

Disinfection requirements for Class A effluent are contained in IDAPA 58.01.17.601.06.c, and stipulate that chlorine disinfection processes provide a concentration/contact time (CT) of 450 mg-min/L, measured at the end of the contact time with a modal contact time of not less than 90 minutes based on peak flow. This chlorine disinfection requirement has been included as a condition of the draft WRP.

As was indicated in Section 3.5 of this document, Meridian intends to use the length of the Boise River Outfall pipe (i.e., between the pump station at the WWTP and Heroes Park Holding Pond) to achieve the required 90 minute contact time. The WRP application has also proposed to construct a CT simulator in the pump house; the intent of the simulator is to reproduce the contact time achieved within the Boise River Outfall pipe and reproduce the same chlorine residual discharged to Heroes Park Holding Pond, to allow monitoring onsite at the WWTP (i.e., rather than in the field at the holding pond). To design the CT simulator, it was assumed that the flow into the Boise River Outfall pipe will be held constant at 800 gpm; this flow requirement has also been incorporated into the draft WRP, to ensure accuracy of the CT simulator. Compliance Activity CA-215-02 requires that a verification report for calibration of the CT simulator be submitted to and approved by DEQ prior to any land-application of effluent at Heroes Park.

Section G of the permit requires continuous monitoring of 1) the flowrate to the CT simulator, 2) the flowrate of effluent discharged to Heroes Park Holding Pond, and 3) the chlorine residual from the CT simulator. The WRP also requires monthly grab sampling for total coliform and chlorine residual at the Boise River Outfall discharge header to verify that proper disinfection is being achieved by the system and accurately monitored by the CT simulator. Finally, the CT simulator must be calibrated annually, prior to each growing season. Collectively, these monitoring and calibration requirements should ensure that the disinfection requirements of Section 601.06.c of the Reuse Rules are met, while allowing Meridian to use the CT simulator to monitor the actual level of disinfection achieved by the Class A treatment system.

4.1.5 Class A Effluent, Total Nitrogen Limit

The WRP stipulates a total nitrogen concentration limit of 11.5 mg/L or less, as a monthly average, for treatment plant effluent discharged to Heroes Park Holding Pond. This concentration represents the value used in the ground water assessments contained in Section 7.5 of the WRP application, and has been carried over into the permit, per the conditions of IDAPA 58.01.17.601.05.

The monitoring requirements for this condition are found in Section G of the permit, and include daily

volumetric flow requirements for effluent discharged into Heroes Park Holding Pond, and weekly composite samples for total nitrogen.

4.1.6 Class A Effluent, Total Phosphorous Limit

The permit does not contain any limits for phosphorous, as there is no potential for surface water impacts associated with Heroes Park; however, it should be noted, that a phosphorous limit may become applicable for the permit if Meridian should seek to modify the WRP to apply Class A effluent at other sites at some future date.

Section G of the permit does require that the weekly composite sample of Class A effluent be tested for total phosphorous. This monitoring requirement will allow Meridian to determine phosphorous loading from the effluent and is intended to assist with agronomics of the site.

4.1.7 Class A Effluent, 5-day Biological Oxygen Demand Limit

The WRP stipulates a biological oxygen demand (BOD_5) concentration limit of 10 mg/L or less for effluent discharged to Heroes Park Holding Pond. This limit reflects the requirements of IDAPA 58.01.17.601.08.b.

The monitoring requirements for this condition are found in Section G of the permit, and include daily volumetric flow requirements for effluent discharged into Heroes Park Holding Pond, and weekly composite samples for BOD_5.

4.1.8 Class A Effluent, pH Limit

The WRP stipulates that effluent discharged into Heroes Park Holding Pond met the pH requirements of IDAPA 58.01.17.601.08.c (i.e., 6.0-9.0). The permit also requires that pH be monitored on a continual basis.

4.1.9 Class A Effluent, Turbidity Limit

Turbidity requirements for Class A effluent are contained in IDAPA 58.01.17.601.06.b, and stipulate that turbidity of the effluent must be monitored and recorded continuously, with no 24-hour average measurements exceeding 2 Nephelometric Turbidity Units (NTU) and with no instantaneous maximum measurement exceeding 5 NTU. These turbidity requirements are included in the permit for all wastewater effluent discharged into Heroes Park Holding Pond.

Monitoring requirements for this conditions are contained in Section G of the permit, and include use of an in-line continuously monitoring and recording turbidimeter

4.1.10 Class A Effluent, Total Coliform Limit

Section 600.07.a of the Rules stipulates that, at the point of compliance, the median number of coliform organisms cannot exceed 2.2 total coliform units per 100 milliliters of effluent (TCU/100 mL) as determined from the bacteriological results of the last seven days for which analyses have been completed, and also cannot exceed 23 TCU/100 mL in any confirmed sample. Section G of the WRP requires daily grab samples for total coliform from the CT simulator, and monthly grab samples from the Boise River Outfall discharge header, to ensure that proper disinfection has been achieved.

4.1.11 Construction Plans Requirement

The WRP requires Meridian to submit plans and specification for DEQ review and approval, prior to construction or modification of any wastewater facilities associated with the reuse system. This is intended to allow ongoing regulatory oversight of any future modifications to the wastewater treatment and/or reuse facilities.

4.1.12 Runoff and Wellhead Protection Requirements

Section F of the permit generally requires the permittee to manage the reuse sites in accordance with an approved Runoff Management Plan, required by Compliance Activity No. CA-215-02. To prevent runoff from the reuse sites, Best Management Practices (BMPs) will be used around all areas where runoff may potentially occur. Additionally, berms and other BMPs will be used to protect the wellhead of on-site wells. New BMPs shall be reviewed and approved by DEQ prior to implementation.

4.1.13 Buffer Zones Requirements

Per the requirements of IDAPA 58.01.17.600.08 and 601.02.e.ii, the following buffer zone requirements are specified within the permit:

- Drinking Water Wells: 100 feet
- Drinking fountains, picnic tables, food establishments, and other public eating facilities shall be placed out of any spray irrigation area in which effluent is used, or shall be otherwise protected from contact with the effluent.

4.1.14 Posting Requirement

Per the requirements of IDAPA 58.01.17.601.02.c.ii, the WRP requires that warning signs are to be placed on each side of Heroes Park Holding Pond, or at minimum 250 foot intervals, as applicable. The signs shall read “Warning: Reclaimed Wastewater - Do Not Drink”, or equivalent..

4.1.15 Irrigation Scheduling Requirement

In accordance with IDAPA 58.01.17.600.07.a, Class A effluent can only be applied during periods of non-use. Consequently, the WRP stipulates that irrigation only be allowed during periods of non-use by the public (i.e., times when Heroes Park will not be accessed).

4.1.16 Ground Water Quality Restriction

The permit requires that wastewater reuse activities conducted by the permittee shall not cause a violation of the *Ground Water Quality Rule*, IDAPA 58.01.11. This permit condition is intended to ensure that the facility’s wastewater reuse operations comply with the *Ground Water Quality Rule.*

4.1.17 Supplemental Irrigation Water Protection Requirement

This requirement mandates installation of a DEQ-approved backflow prevention device, where fresh and wastewater interconnections exist in the reuse systems, to prevent contamination of the fresh irrigation water source. This is intended to assist with ongoing regulatory oversight of the reuse system and/or associated operations.

Section G of the permit requires that all supplemental irrigation pumps directly connected to the wastewater distribution system be backflow tested annually.

4.2 Monitoring Requirements – Section G

The monitoring provisions of the WRP are contained in Section G of the permit. These conditions are needed to assess and/or establish ongoing compliance with site-specific permit requirements of Section F, and were specifically identified and discussed in preceding sections of this document.

4.3 Reporting Requirements – Section H

Section H of the permit contains the Annual Report requirements for the land application sites. Essentially, the Annual Report should contain results from all work conducted during the previous annual period for each monitoring requirement listed in Section G of the permit. This section also contains reporting requirements for all compliance activities contained in the permit.

4.4 Compliance Schedule for Required Activities – Section E

The following compliance activities have been implemented within the draft WRP in order to address various regulatory issues and/or update permit materials to reflect the current status of facility operations.

4.4.1 Plan of Operation

Meridian's Class A wastewater treatment and reuse systems constitute newly proposed treatment facilities, and will require a detailed Plan of Operation at the 50% completion point of construction (i.e., refer to IDAPA 58.01.17.300.07). Additionally, the Plan must be updated after one year of operation, to reflect actual operating procedures. Consequently, the WRP contains a compliance activity that requires submittal of a detailed Plan of Operation at 50% completion of construction of the reuse facilities, as well as an updated Plan of Operation after one year of operation. This requirement appears as Compliance Activity No. CA-215-01. Upon receiving DEQ's approval, the Plan of Operation will be incorporated into the terms and conditions of the renewal permit, and will be enforceable as such (refer to Section B of the permit).

The Plan of Operation must generally incorporate the requirements of the permit, and should be designed for use as an operator guide for actual day-to-day operations required to meet these permit requirements. The plan must include sampling and monitoring required by the permit and/or to insure proper operation of the wastewater treatment and reuse facilities. The Plan of Operation is specifically required to include or address:

- Procedures (operating, reporting, corrective actions, etc.) for upset periods or off-specification effluent.
- All sampling, monitoring and reporting requirements of the permit.
- A description of approved sample collection methods, appropriate analytical methods, and companion quality control/assurance (QA/QC) protocols.

4.4.2 Runoff Management Plan

Compliance Activity No. CA-215-02 in Section E of the permit requires submittal of a Runoff Management Plan designed to prevent any runoff from any site or field used for wastewater reuse to any property not owned by Meridian, except after a 25-year, 24-hour storm event or greater. This storm event is to be defined by use of the Western Regional Climate Center (WRCC) Precipitation Frequency Map, Figure 28 "Isopluvials of a 25-YR, 24-HR Precipitation".

The permit application indicates that a storm water plan sufficient for a 100-year storm event has been developed for the Heroes Park site; however the actual plan was not included within the application

materials. This document may be used to satisfy the requirements of CA-215-02, pending review and approval from DEQ.

4.4.3 Disinfection/Chlorine Residual Monitoring System Verification Report

Compliance Activity No. CA-215-03 in Section E of the permit requires submittal of a verification report for the CT simulator. The verification report shall document the actual testing procedures used and the manner in which the results obtained, including all analytical data obtained, were used to calibrate/verify that the CT simulator accurately simulates the chlorine residual of effluent discharged to Heroes Park Holding Pond.

DEQ's approval of the verification report is required prior to any effluent application in Heroes Park.

4.4.4 Seepage Testing Protocol

Per the requirements of IDAPA 58.01.16.493, Heroes Park Holding Pond must be seepage tested. Compliance Activity CA-215-04 requires that a protocol for this seepage test by submitted to DEQ within 6 months of permit issuance. After approval of the protocol, and prior to 18 months after permit issuance, the pond must be seepage tested in accordance with the approved protocol. If the pond does not pass the seepage test evaluation, the pond will be relined/repaired and retested, or a ground water impact assessment showing compliance with IDAPA 58.01.11 must submitted to DEQ for review and approval.

4.4.5 Renewal Permit Application

Compliance Activity No. CA-215-04 in the permit requires Meridian to submit a permit application renewal package within six months of the permit's expiration date, which will be formalized and documented on the cover page of the permit upon final issuance.

5. RECOMMENDATIONS

Based on review of applicable state rules, staff recommends that DEQ issue draft WRP No. LA-000215-01 for a public review and comment period. The draft permit contains effluent quality requirements for the wastewater treatment system, as well as terms and conditions required for operation of the reuse systems. Monitoring and reporting requirements to evaluate system performance and to determine permit compliance have been specified, and compliance activities recommended in the staff analysis have been incorporated into Section E of the permit.